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Mr. David Pope  
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Washington State Department of Transportation  
3214 50<sup>th</sup> Street Court NW, Suite 302  
Gig Harbor, WA 98335

**RE: Relationship Between Current Traffic Counts on the Tacoma Narrows Bridge and Estimated Traffic Volumes on the Dual Span**

Dear David,

This letter was developed to clarify the relationship between actual traffic volumes on the Tacoma Narrows Bridge (TNB or the Bridge) and the estimated traffic volumes on the TNB once the dual span is operational. The estimates were developed by Wilbur Smith Associates (WSA) for the Washington State Department of Transportation (WSDOT). The estimated traffic and toll revenue was presented in the letter report *Tacoma Narrows Bridge Traffic and Revenue Study Update – Base Case*, dated September 16, 2005.

Since the 2005 Update Study (which assumed the dual span opens on April 1, 2007 with a flat \$3.00 toll for all vehicles through calendar year 2007) WSA developed a series of forecasts based on different opening dates and discount rates for an electronic toll collection system called Good To Go. The forecasts developed in 2006 and 2007 are all based on the 2005 Update Study, and result in fairly minor modifications to estimated traffic volumes, again reflecting refinements in the opening date of the Bridge and participation in Good To Go, including potential toll discounts. The consistency in estimates are highlighted below:

- In the 2005 Update Study, the tolled traffic (eastbound traffic) was estimated to *average 38,300 vehicles per day* in calendar year 2007. This assumed an opening date of April 1, 2007 and a flat toll of \$3.00 per vehicle.
- In recent estimates, the fiscal year 2007-08 eastbound (tolled) traffic *averages 38,100 vehicles per day* assuming an opening date of August 1, 2007, and a \$3.00 toll for passenger cars, and a proportionately higher toll for vehicles with more than two axles, based on the total number of axles.
- In fiscal year 2007-08, estimated eastbound (tolled) traffic *averages 39,400 vehicles per day* assuming an opening date of August 1, 2007, a \$3.00 passenger car toll (with a \$1.50 toll for

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Good To Go patrons) and progressively higher tolls for vehicles with more than two axles. The increased traffic is due to the option of a decreased toll (\$1.50) for Good To Go patrons.

### **Major Operating Characteristics on the Existing Bridge**

The existing Bridge is currently a four-lane structure, and is operated toll-free. The major operating characteristics on the existing bridge include (please also refer to Table 1 and Figure 1):

- In 1990 total traffic (both directions) averaged 66,573 per day,
- In 2002, total traffic (both directions) averaged 85,878 vehicles per day,
- From 2003 through 2006 and into 2007, construction projects have been active in several locations on SR 16 and on the Tacoma Narrows Bridge as part of WSDOT's improvement program. Traffic declined on the Bridge as seen in Table 1 and Figure 1, largely attributable to construction activities, with a minor impact due to severe weather in late 2006.
- In 2006, total traffic on the Bridge averaged 82,200 per day. This figure is estimation, as WSDOT traffic counts were frequently unavailable due to construction activities on and near the TNB.
- Between 1990 and 2000, traffic on the Bridge increased by an average 2.4 percent per year. Between 1995 and 2002, traffic increased by an average 1.2 percent per year.

### **Estimates of Toll-Free Traffic on the Existing Tacoma Narrows Bridge**

WSA developed estimates of the traffic volumes on the existing Bridge for 2003 through 2007, assuming no construction related impacts on SR 16 and the Bridge. The estimates were developed assuming an average annual increase in traffic of only 0.7 percent per year from 2002 to 2007 due to normal traffic growth.

- In 2007, an estimated average of 88,900 vehicles per day would likely use the existing Bridge *assuming no construction impacts*.
- The 88,900 average daily traffic (ADT) in 2007 assumes an increase of only 0.7 percent per year in traffic growth from 2002.

### **Estimated Toll-Free and Tolloed Traffic on the Dual Span**

WSA developed estimated traffic volumes on the dual span as documented in the 2005 Update Study. The Update Study assumed the Bridge would open on April 1, 2007.

- In 2007 (please refer to Table 1), WSA estimated that an average 90,600 vehicles per day would likely use the dual span under a no toll condition. This is 1.9 percent greater than the 88,900 vehicles that were estimated to use the existing Bridge in 2007 without any improvements. The additional 1,700 vehicles are attributed to "induced traffic", that is additional trips created by the improved transportation in the SR 16 corridor and on the dual span.
- In 2007 (please refer to Table 2), when the dual span is operating, and assuming it is non-tolled, the eastbound (EB) traffic (planned tolled direction) is estimated to total about 45,300 vehicles per day (based on the *total* estimated ADT of 90,600).

- In 2007, when the dual span is operating, the estimated eastbound *tolled* traffic is an average of 38,300 vehicles per day. This represents a reduction of 7,000 vehicles per day, a *15.5 percent decrease* due to tolling. The reduction is a combination of 1) trips not made, 2) reduced trip frequency, 3) a change in mode of transport, and 4) a change in route. The toll assumption for this estimate was a \$3.00 flat toll for all vehicles in 2007.

### **Estimated Toll-Free Traffic in 2020**

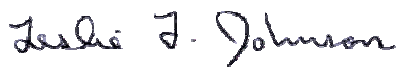
Based on the study methodology described in the 2005 Update Study, the toll-free traffic (both directions) on the dual span was estimated to reach approximately 116,500 by 2020 assuming the span becomes operational in 2007. The trend of actual and estimated toll-free traffic volumes is shown in Figure 2. This is somewhat lower than the previously mentioned 120,000 estimate due to lower growth rates published after the EIS was completed.

The estimated toll-free and tolled traffic presented in this letter was based on the 2005 Update Study, which was consistent in methodology with the prior study by WSA published in 2002, titled *SR 16 Tacoma Narrows Bridge Traffic and Revenue Study*. Estimated traffic volumes that have been developed since the 2005 Update Study show minor differences in traffic strictly due to changing assumptions on 1) the opening month of the dual span, 2) the operation of Good To Go (the electronic toll collection system), and 3) different toll schedule assumptions, including potential discounts for Good To Go patrons.

WSA hopes this material has clarified the relationship between the current traffic volumes on the Bridge and the estimated toll-free and tolled traffic volumes in future years.

Sincerely,

WILBUR SMITH ASSOCIATES



Leslie L. Johnson  
Project Manager

**Table 1**  
**Actual and Estimated Traffic Volumes (Both Directions)**  
**Assuming the TNB is Toll-Free**

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Calendar Year	Average Daily Traffic (1) (ADT)	Percent Change Over Prior Year	Estimated Average Daily Traffic on Existing Bridge Removing Construction Impacts	Estimated Percent Change Over Prior Year	Estimated Average Daily Traffic on Dual Span Toll-Free (4)
1990	66,573				
1991	70,112	5.3			
1992	74,342	6.0			
1993	75,337	1.3			
1994	75,731	0.5			
1995	78,945	4.2			
1996	78,935	(0.0)			
1997	81,548	3.3			
1998	82,700	1.4			
1999	83,700	1.2			
2000	84,400	0.8			
2001	84,617	0.3			
2002	85,878	1.5			
2003	85,456 (2)	(0.5)	86,500	0.7	
2004	85,826 (2)	0.4	87,100	0.7	
2005	84,600 (2)	(1.4)	87,700	0.7	
2006	82,200 (2, 3)	(2.8)	88,300	0.7	
2007			88,900	0.7	90,600

Actual and Estimated Average Annual Percent Change (AAPC) in Traffic Volumes

1990 - 2000 2.4

1995 - 2002 1.2

2002 - 2007 Estimated 0.7

Removing construction impacts

(1) Both Directions - data from WSDOT

(2) Traffic volumes were negatively impacted due to construction on the TNB and the S.R. 16 corridor.

(3) Due to construction, count data was often not available. Estimates were made by WSA for days in June, July, October and November 2006.

(4) The 90,600 estimated ADT includes the 88,900 vehicles plus an additional 1,700 vehicles per day, an increase of 1.9 percent, due to improved conditions on the Bridge and the SR 16 corridor.

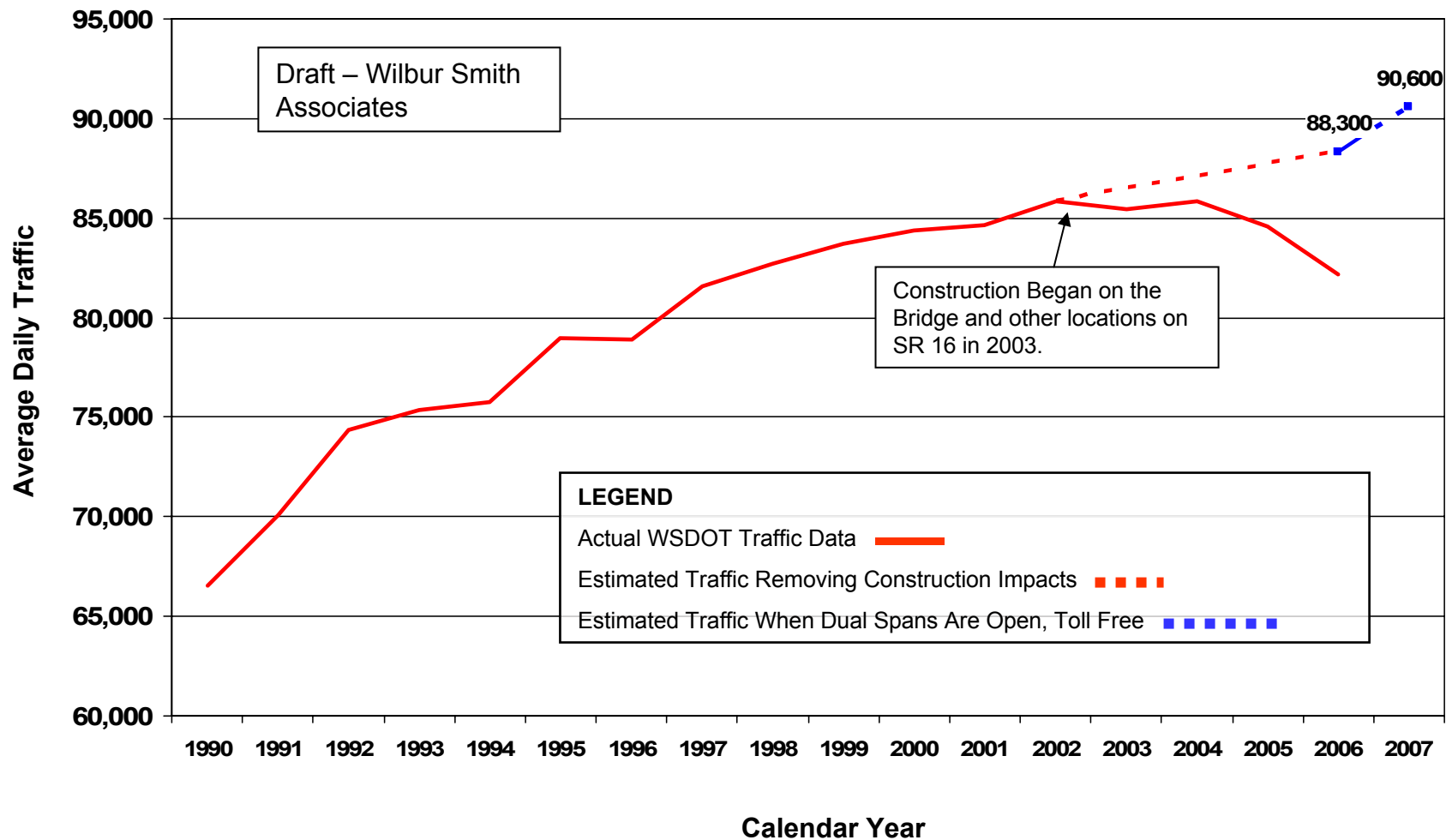
**Table 2**  
**Estimated Reduction of Traffic Associated With**  
**A \$3.00 Toll for all Eastbound Vehicles**

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Year	Estimated Toll-Free Traffic (1)		Average Daily Eastbound Traffic \$3.00 Toll	Decrease in Traffic	Percent Reduction
	Average Daily Traffic	Average Daily Eastbound Traffic			
2007	90,600	45,300	38,300	(7,000)	(15.5)

(1) Assumes dual spans are open.

**Figure 1**  
**Actual and Estimated Toll-Free Average Daily Traffic Volumes**  
**on the Tacoma Narrows Bridge From 1990 through 2007**  
Both Directions of Travel



**Figure 2**  
**Actual and Estimated Toll-Free Average Daily Traffic Volumes**  
**on the Tacoma Narrows Bridge From 1990 Through 2020**  
 From Both Directions of Travel

